



Estimating Annual Energy Consumption and Minimum REC Purchases for Non-residential End-users

This chart is to help small businesses, congregations, and other organizations in Montgomery County determine how many renewable energy certificates (RECs) they should purchase in order to receive incentives through the Clean Energy Rewards program. The minimum requirement is 50% of the annual energy consumption. Both non-residential end-users that pay their electric bill and those that pay their electric bill through their lease can to purchase RECs. Rewards will be added or credited to the invoice for the purchase of RECs from a certified REC marketer.

Use the *energy intensities* – the amount of electricity in kilowatt-hours (kWh) a space uses per square foot per year – in the chart below to estimate how much electricity the business or organization uses in a year. This estimate will be used to determine how many RECs should be purchased to earn rewards through the Clean Energy Rewards program. The energy intensities in this chart represent the average building of each type in our region.

Building/Business Type	Examples	Energy Intensities	
		Gas Heat kWh/ft ² /Yr	Electric Heat and Heat Pumps kWh/ft ² /Yr
Congregation	Religious Worship	7	16
Convenience	Convenience Stores, Gas Stations, Beverage Store	72	86
Education	Private Schools and Colleges	10	20
Fast Food	Fast food, cafes	35	108
Grocery	Grocery Stores	50	67
Lodging	Hotel or Motel	12	23
In-Patient Medical Facility	Doctor's Office, In-patient Care	23	45
Office -- small	Engineering Firm, Physician, Veterinarian, Dentist	14	23
Public Assembly	Movie Theatre, Bowling Alley	13	23
Retail -- small	Gift Shop, Hair Salon, Movie Rental Store, Jewelry Store	13	22
Restaurant -- sit down	White Linen, Casual Dining, Lounges	25	69

Source: ITRON Eshapes, 2005

Step 1: Find the business' energy intensity

You must determine the heating source (gas or oil heat, or electric heat/heat pumps) of the building or space to get an accurate result.

- If you receive a separate bill for natural gas or oil, then the space is probably heated with that fuel.
- If you do not pay for oil or gas, then your space is probably heated using electric or by a heat pump.
- If the space is managed, then ask the management company about the heat source.

Step 2: Find the square footage of the space

This should be available from the management company of the building, in the lease, or in the deed to the property.

Step 3: Determine the estimated annual energy consumption (kWh)

Multiply the energy intensity by the square footage of the space.

Step 4: Determine the *minimum* number of RECs to purchase

Multiply the energy consumption found in Step #3 by 50%.

- All participating businesses must purchase at least 50% of their annual energy consumption in RECs to earn rewards.
- The business can purchase REC equivalents from 50%-100% of the annual energy consumption. Rewards will be credited for the first 100,000kWh of clean energy used.

Example: Find the annual energy consumption for a 8,000 ft² boutique using gas heat

1. Energy Intensity = 13 kWh/ ft²/year
2. 8,000 ft²
3. 13 kWh/ ft²/year X 8,000 ft² = 104,000kWh estimated annual electricity use
4. 104,000kWh x 50% (minimum purchase to receive rewards) = 52,000 kWh

This business must purchase at least a 52,000 kWh equivalent of RECs to earn rewards. The business can also offset 100% of its annual energy consumption by purchasing the 104,000 kWh equivalent of RECs. Because the funding levels for businesses are capped at 100,000 kWh, this business would be reimbursed for the first 100,000 kWh purchased.

Special Note for Commercial Businesses in Residential Spaces

Some businesses are located in residential buildings in Montgomery County; for example, home offices, in-home salons, etc. Such businesses will be classified by the rate paid for their energy bill. For instance, an in-home salon may be charged the residential rate for electricity, not a commercial rate, even though it is a business. If you are in this category your bill will usually say R or RTM schedule. If this is the case, then the business should use the Residential REC chart. Consider the energy use for the entire home since it is difficult to separate the energy use of the business from the energy use of the entire house.

Businesses paying commercial rates for electricity, but located in a small building, like a house retrofit and zoned for commercial space such as a small retail store, café, restaurant, etc., will use the Commercial REC chart above. The category on your bill will usually contain a G, for example GS, GL, or MGT. Please estimate the square footage of the space and use the appropriate energy intensity based on the type of business.

Please contact the Clean Energy Rewards Coordinator at the Department of Environmental Protection with any questions about this information: 240-777-7700.